

Amendments to the Specification

Please amend the specification of International Publication Number WO 2005/040008 as follows:

Cross Reference to Related Applications

On Page 1 of the specification, insert before the first line the following new section:

This is a national stage filing under 35 U.S.C. 371 of PCT/EP2004/011876, filed October 20, 2004, which International Application was published by the International Bureau in English on May 6, 2005, which claims priority to EP 03024398.4, filed October 24, 2003.

On page 1, please replace paragraph 2 that starts with the words "For storing and applying" and ends with the words "the treatment site." with the following amended paragraph:

For storing and applying a small quantity of a liquid, a commercially available device includes a container in the form of a so-called "blister package". Two separate recesses are formed in a deep-drawn part of the package which is closed by a removable sheet. Upon removal of the sheet, the two container recesses are exposed so that a brush can be taken out and used to apply the liquid to the treatment site. For example, US-A-6 105 761 discloses a device for storing and dispensing quantities, particularly small quantities, of one or more flowable substances. The device comprises a pocket which is formed so as to receive an application instrument. The application instrument, which is stored in a pocket of the container or is inserted ~~into the same~~ into the pocket by the user, may be contacted with the flowable substance without opening the container as a whole. It is only necessary to withdraw the application instrument, after it has taken up the substance, from the pocket of the container and move it to the treatment site.

On page 1, please replace paragraph 4 that starts with the words "Such devices have" and ends on page 2 with the words "transferring further liquid." with the following amended paragraph:

~~Such devices have already~~ devices are already proven in the market as a cheap and reliable delivery system for storing, mixing, and applying of flowable liquid materials using, for example, such a brush applicator. For indications requiring a higher volume of liquid for the treatment a brush may be, however, disadvantageous because the amount of liquid which can be transferred from the package to the location of treatment is limited to the absorbability of the brush. Furthermore, once a brush is wetted with liquid, the absorbability decreases tremendously, thus becoming nearly useless for transferring further liquid.

On page 2, please replace paragraph 1 that starts with the words "It is an object" and ends with the words "of the claims." with the following amended paragraph:

It is an object of the present invention to provide an improved and simplified device for storing and dispensing a desired amount of a flowable substance. ~~This object is achieved with the features of the claims.~~

On page 2, please replace paragraph 5 that starts with the words "Preferably, the extension" and ends on page 3 with the words "the cover member." with the following amended paragraph:

Preferably, the extension part has a cross-sectional shape comprising sharp edges in the plane between the base member and the cover member, and more preferably comprises a rhombic, triangular or fin-like cross-sectional shape. This cross-sectional shape (in a plane perpendicular to the longitudinal axis of the cannula) of the extension part provides a smooth transition between the extension part and the surrounding base and cover member, and the sharp edges help to avoid hollow spaces between the base member and the cover member, because the ~~sharp edges lay~~ sharp edges lie in the plane between the base and the cover member.

On page 3, please replace paragraph 3 that starts with the words "It is preferred" and ends with the words "and/or an adhesive." with the following amended paragraph:

It is preferred in all alternative embodiments that the first end of the cannula is attached to said open ended pocket by ~~means of~~ a heat seal, a press fit, and/or an adhesive.

On page 3, please replace paragraph 5 that starts with the words “Preferably, the extension” and ends on page 4 with the words “the raised part.” with the following amended paragraph:

Preferably, the extension part is attached to the container by ~~means of~~ an adhesive or glue, respectively, which is, for example, is provided in the form of a ring at a certain distance around the passageway opening at the first end. Preferably, the ring of glue is applied on the surface of the (e.g. disk-shaped) extension part. Alternatively, the extension part comprises a recess, preferably ring-shaped, in the surface that is to be attached to the container; the recess receives the adhesive. The latter alternative is advantageous in that it prevents closing of the passageway by the glue. This can be further enhanced in that the part of the extension part surrounding the passageway outlet is somewhat raised relative to the rest of the surface of the extension part, and the recess surrounds the raised part.

On page 4, please replace paragraph 2 that starts with the words “It is preferred” and ends with the words “to be dispensed.” with the following amended paragraph:

It is preferred that the cannula is inclined with regard to the extension part. That means, for example in case of a disk-shaped extension part, the cannula does not perpendicularly extend from the surface of the extension part but is slightly inclined relative to the plane of the extension part. More preferably, the extension part comprises a bend so that it comprises two portions that are inclined relative to each other. Most preferably, the bend is provided such that the entire assembly of cannula and extension part comprises a zig-zag-configuration. Such a zig-zag-configuration facilitates manufacturing of the dispenser part by injection molding. Furthermore, it allows the entire device to be ~~built as non-angled~~ built as a non-angled device which can be handled by a user like a pen when a liquid is to be dispensed.

On page 4, please replace paragraph 3 that starts with the words “In the case” and ends with the words “container is prevented.” with the following amended paragraph:

In case the extension part is attached to the cover member of the container, fluid communication is established, for example, by puncturing the cover member, for example by a small needle. It

~~sis preferred~~ is preferred that the size of the hole in the cover member is smaller than the passageway of the cannula because then a controlled dispensing of the substance is achievable. Furthermore, unintended all at once emptying of the container is prevented.

On page 5, please replace paragraph 3 that starts with the words "As an option" and ends with the words "piston is provided." with the following amended paragraph:

As an option for all aspects of the present invention, the cannula comprises a dosing structure, ~~means~~, preferably having a variable or flexible volume, ~~like are bellow~~ like a bellow, to squeeze the substance out of the cannula. The dosing structure ~~means~~ is preferably attached to the cover member, and a passageway between the dosing structure ~~means~~ and the pocket area is established prior to use, for example, by ~~means of~~ a punching member. Alternatively, a cartridge with a piston is provided.

On page 6, please replace paragraph 5 that starts with the words "In all aspects" and ends with the words "compartment upon filling." with the following amended paragraph:

In all aspects of the present invention, it is preferred that the base member is formed as a sheet. Preferably, the base member sheet is a deep-drawn sheet formed of a polypropylene layer, an aluminium layer, and a polyethylene layer. It is also preferred that the cover member is formed as a sheet, and is preferably formed of a polyethylene terephthalate layer, an aluminium layer, and a polyethylene layer. In both sheets, a polyethylene terephthalate layer may be provided between the aluminium layer and polyethylene layers. The sheets used are such that they act as a diffusion barrier with respect to the substance ~~to the received~~ to be received in the compartment. Both of the sheets are preferably flexible, which is useful in that the container, being made of just two flexible sheets, is inexpensive in terms of material and manufacture. Using suitable sheets will safely avoid any diffusion of the compartment content. Thus, the sheet package may be used without any further envelope as a primary package which allows clear marking due to its flat and relatively large-area shape. The separation between the compartment containing the flowable substance and the pocket receiving the cannula is preferably achieved by mutual adherence of the two sheets. The adherence may be created simultaneously with the sealing of the compartment upon filling.

On page 7, please replace paragraph 1 that starts with the words "The cover member" and ends with the words "comprises wax components." with the following amended paragraph:

The cover member is alternatively formed as a plastic part, preferably as an injection moulded part that has the same shape like the punching contour of the base member in order to achieve an improved stiffness, and to improve the entire handling of the device. If in this case a two- or multi-component base member is used, the plastic part forming the cover member needs to be foldable between the two compartments, for example by a line of weakness forming a hinge. It is preferred that additional ~~locking means~~ locking structures (for example brackets or clips) are provided that prevent that the folded plastic part is unfolded again after mixing and dispensing of the substance. In order to reduce the tendency to fold back, the used material preferably comprises wax components.

On page 7, please replace paragraph 2 that starts with the words "Such locking means" and ends with the words "return movement tendency." with the following amended paragraph:

Such ~~locking means~~ locking structures are also preferred for the other embodiments in case materials are used for the base member and cover member having a certain inherent return movement tendency.

On page 8, please replace paragraph 6 that starts with the words "In accordance with" and ends on page 9 with the words "of the cannula." with the following amended paragraph:

In accordance with a further preferred embodiment of the present invention, the cannula comprises a mixer ~~mixing means~~. In a first alternative, the mixer includes ~~mixing means are~~ mixing elements that provide a static mixer, for example mixing helixes or elements providing flow resistance; these cause a mixing of the substances by swirl or turbulence. The elements providing flow resistance are preferably formed in the form of protrusions or indentations on the inner surface of the cannula (i.e., in the flow channel). These are preferably formed by embossing, coating, cutting or the like. According to a further alternative, the flow passage through ~~the cannula~~ the cannula is meandering, i.e., the direction of flow changes along the length of the cannula.

On page 9, please replace Fig. 10 under the “Brief Description of Drawings” section with the following amended description:

Fig. 10 shows a preferred embodiment of the device according to the present invention comprising a ~~dosing means~~ dosing system;

On page 9, please replace Fig. 12 under the “Brief Description of Drawings” section with the following amended description:

Fig. 12 shows a preferred embodiment of the device according to the present invention, wherein the extension part of the cannula comprises ~~stiffening means~~ stiffening structure;

On page 12, please replace paragraph 6 that starts with the words “As an option,” and ends with the words “with a piston.” with the following amended paragraph:

As an option, cannula 113 is provided with a separate ~~dosing means~~ dosing system 124’ (see Fig. 10). The ~~dosing means~~ dosing system 124’ preferably comprises a flexible volume to squeeze out the substance, or may even be provided in the form of a cartridge with a piston.

On page 14, please replace paragraph 1 that starts with the words “Preferably, the extension part” and ends with the words “part 163 (see Fig. 21).” with the following amended paragraph:

Preferably, the extension part 161 is attached to the container 10 by ~~means of~~ an adhesive or glue, respectively, which is, for example, is provided in the form of a ring at a certain distance around the passageway opening 13b at the first end. This is shown in Figs. 18 and 19. Preferably, the ring 170 of glue is applied on the surface of the (e.g. disk-shaped) extension part 161. Alternatively, see Fig. 20, the extension part 161 comprises a recess 162, preferably ring-shaped, in the surface of that part 161a that is to be attached to the container 10; the recess 162 is adapted to receive the adhesive. The latter alternative is advantageous in that it prevents closing of the

passageway by the glue. This can be further enhanced in that the part 163 of the extension part 161a surrounding the passageway outlet 13b is somewhat raised relative to the rest of the surface of the extension part, and the recess 162 surrounds the raised part 163 (see Fig. 21).

On page 14, please replace paragraph 3 that starts with the words "It is preferred that" and ends with the words "is to be dispensed." with the following amended paragraph:

It is preferred that the cannula 13 is inclined with regard to the extension part 161, as clearly shown in Figs. 16 to 21. That means, for example in case of a disk-shaped extension part, the cannula 13 does not perpendicularly extend from the surface of the extension part but is slightly inclined relative to the plane of the extension part. More preferably, the extension part comprises a bend 161c so that it comprises two portions 161a and 161b that are inclined relative to each other. Most preferably, the bend 161c is provided such that the entire assembly of cannula and extension part comprises a zig-zag-configuration. Such a zig-zag-configuration facilitates manufacturing of the dispenser part by injection moulding. Furthermore, it allows the entire device to be ~~built as non-angled~~ built as a non-angled device which can be handled by a user like a pen when a liquid is to be dispensed.

On page 15, please replace paragraph 3 that starts with the words "In general," and ends with the words "the compartment 14." with the following amended paragraph:

In general, the shape of the compartment 14 may be circular as shown in Figs 1 through 3 or may have any other geometric form. The pocket 15 for receiving the cannula 13 is formed as ~~a blind whole,~~ a blind hole, which, in the storing condition, is closed to the compartment 14. Compartment 14 and the pocket 15 are arranged with respect to each other preferably such that the axis defined by the pocket 16 and cannula 13 points to the centre of the compartment 14.

On page 15, please replace paragraph 4 that starts with the words "The separation between" and ends with the words "outer connecting regions." with the following amended paragraph:

The separation between the compartment 14 and the pocket 15 is designed with respect to spacing and strength of adherence between the base member 11 and cover member 12 so that a pre-defined break zone is created. With a view to minimum manufacture expenditure, the sheets forming the base member and the cover member are interconnected in the pre-defined break zone in the same way ~~by the same means~~ as in the outer areas, e.g., by hot sealing or gluing. In case of sealing, the pre-defined break zone may be produced by using a different, specifically a lower temperature than in the outer connecting regions.

On page 16, please replace paragraph 1 that starts with the words “The device described” and ends with the words “the second end.” with the following amended paragraph:

The device described above is particularly suitable for storing and dispensing small liquid quantities, such as dental substances which are required for a single application in ~~amounts of~~ few amounts of a few tenths of a millilitre. In such a case, the compartment 14 has a diameter of 10 to 15 mm in the embodiment shown, and the cannula 13 has a diameter of, e.g., > 2 mm at the fixed end and approximately 0.8 mm at the second end.

On page 16, please replace paragraph 3 that starts with the words “According to a further” and ends with the words “of the substance.” with the following amended paragraph:

According to a further preferred embodiment, ~~locking means~~, locking structures, e.g., brackets or clips, are provided that prevent that the one compartment being folded on the other compartment moves back to its original position. In other words, the ~~locking means~~ locking structure keeps the compartments close to each other at or after dispensing of the substance.